IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Applicant:		§	
		§	
	Ernest GRIMBERG	§	
		§	Group Art Unit:
Serial No.:	US National Phase of PCT/IL2004/000714	§	Not Yet Assigned
		§	
		§	
Filed:	Herewith	§	
		§	
For:	Radiometry Using An Uncooled Microbolometer Detector	§	Attorney Docket: **31322**
		§	
Examiner:	Not Yet Assigned	§	

Mail Stop Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PETITION TO ACCEPT COLOR DRAWINGS/PHOTOGRAPHS

Sir:

1. This Petition is for the acceptance of color drawings/photographs, both black and white and color, in this case.

2. Attached hereto are three (3) sets of color photographs on DIN size A4 sheets (21.0 by 29.7 cm) for examination, copying and archival purposes.

3. Please amend the specification by inserting the following language as the first paragraph of the specification beginning at Brief Description of the Drawings (page 12 at line 26):

--The file of this patent contains at least one drawing executed in color photograph. Copies of this patent with color photograph(s) will be provided by the Patent and Trademark Office upon request and payment of necessary fee. --

4. Please charge $130.00 and any additional fees, if required, to Deposit Account No. **50-1407**. A duplicate copy of this form is attached herewith.

Respectfully submitted,

Martin D. Moynihan

Martin D. Moynihan
Registration No. 40,338

Date: February 5, 2006

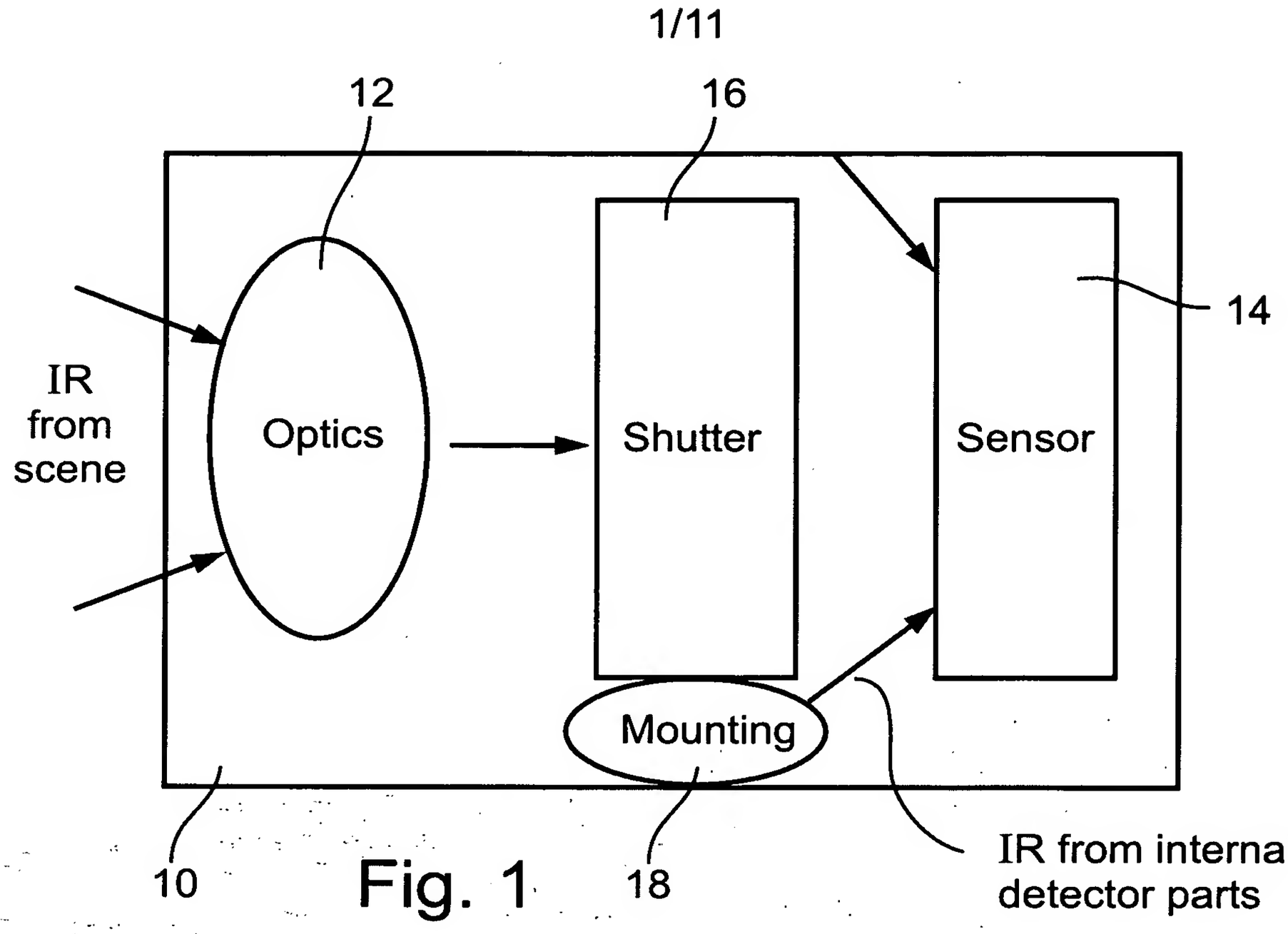

12
16
14
IR
from
scene
Optics
Shutter
Sensor
Mounting
10
18
IR from internal
detector parts

Fig. 1

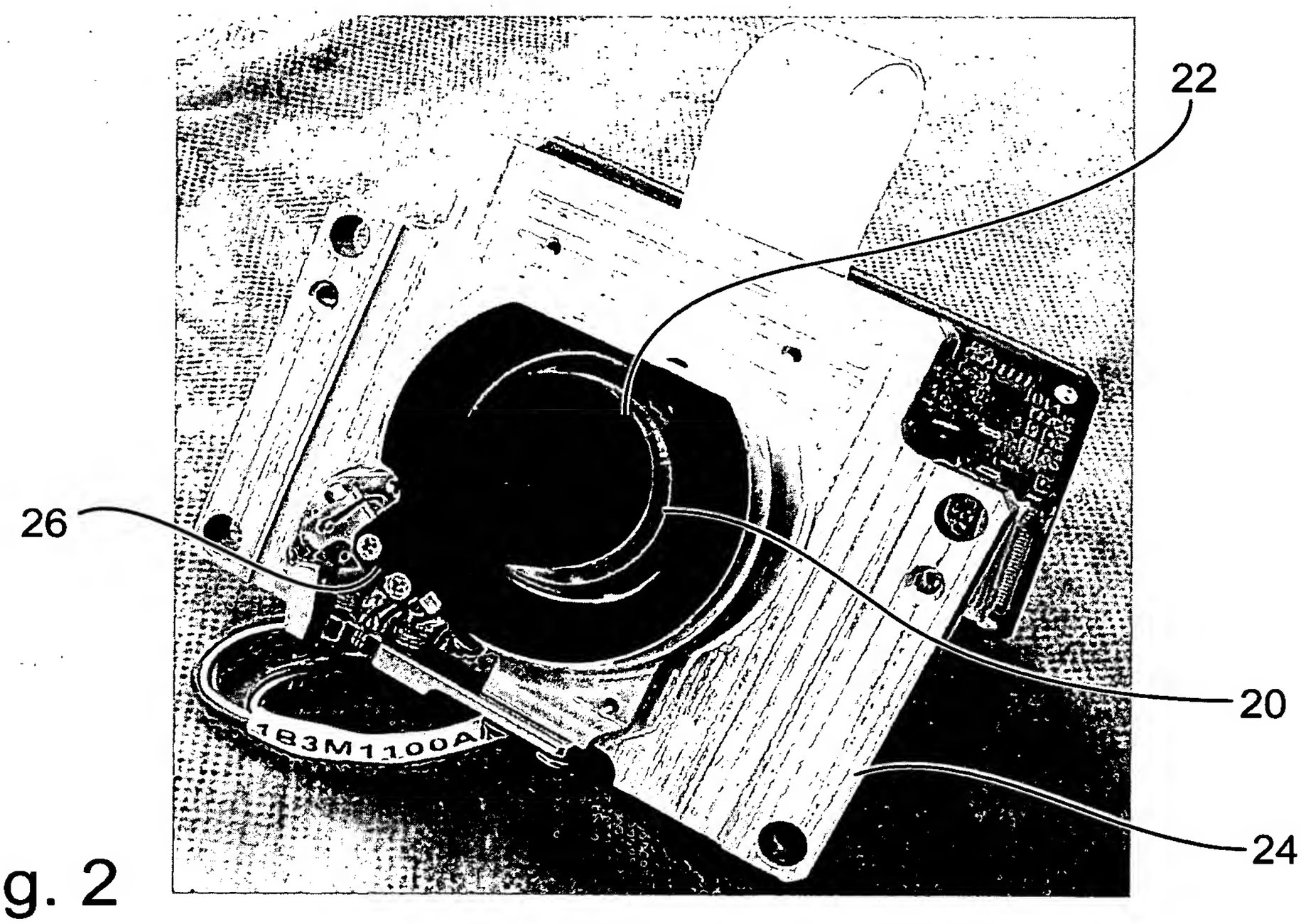

22
26
20
24
183M1100A

Fig. 2

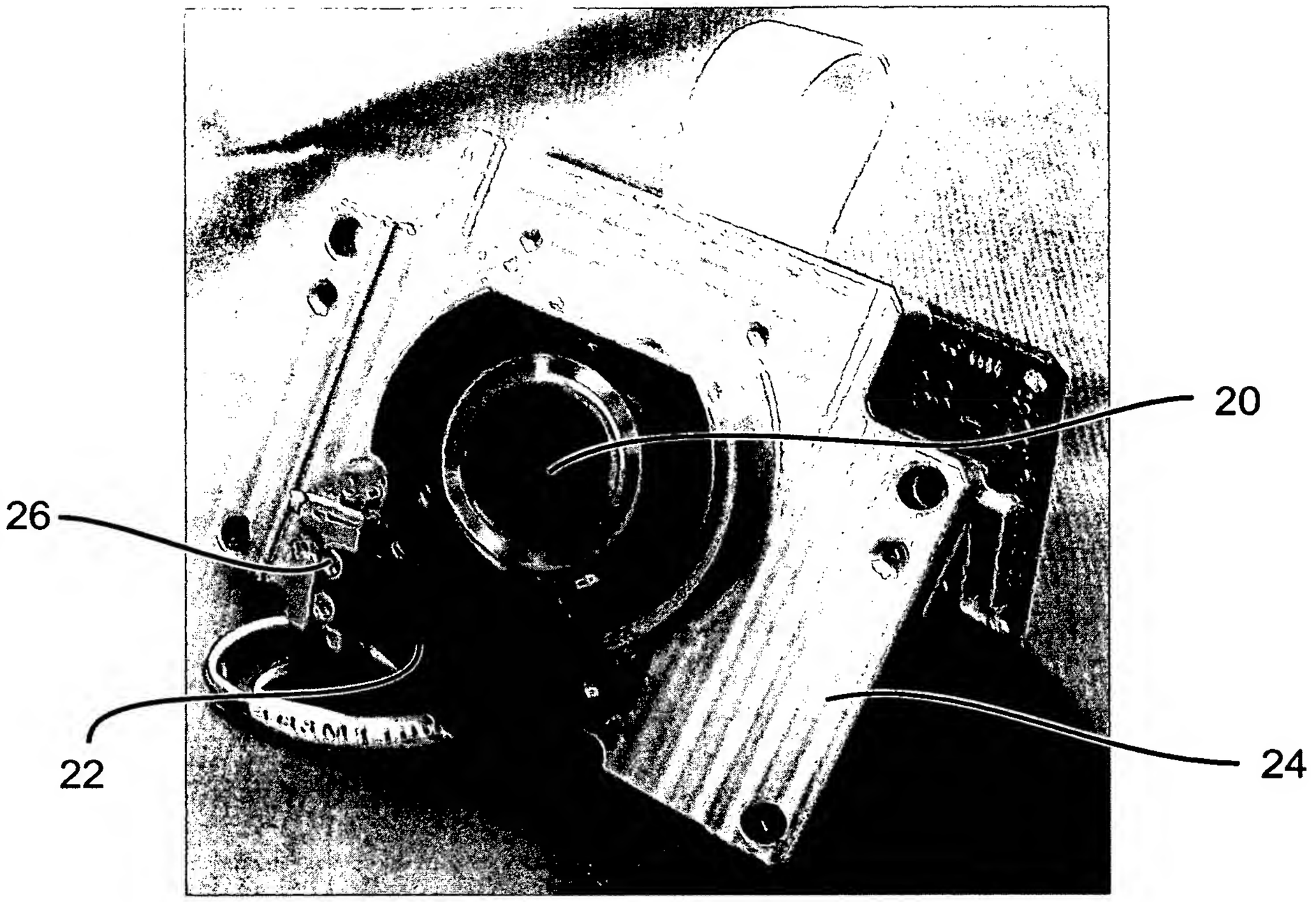

20
26
22
24

Fig. 3

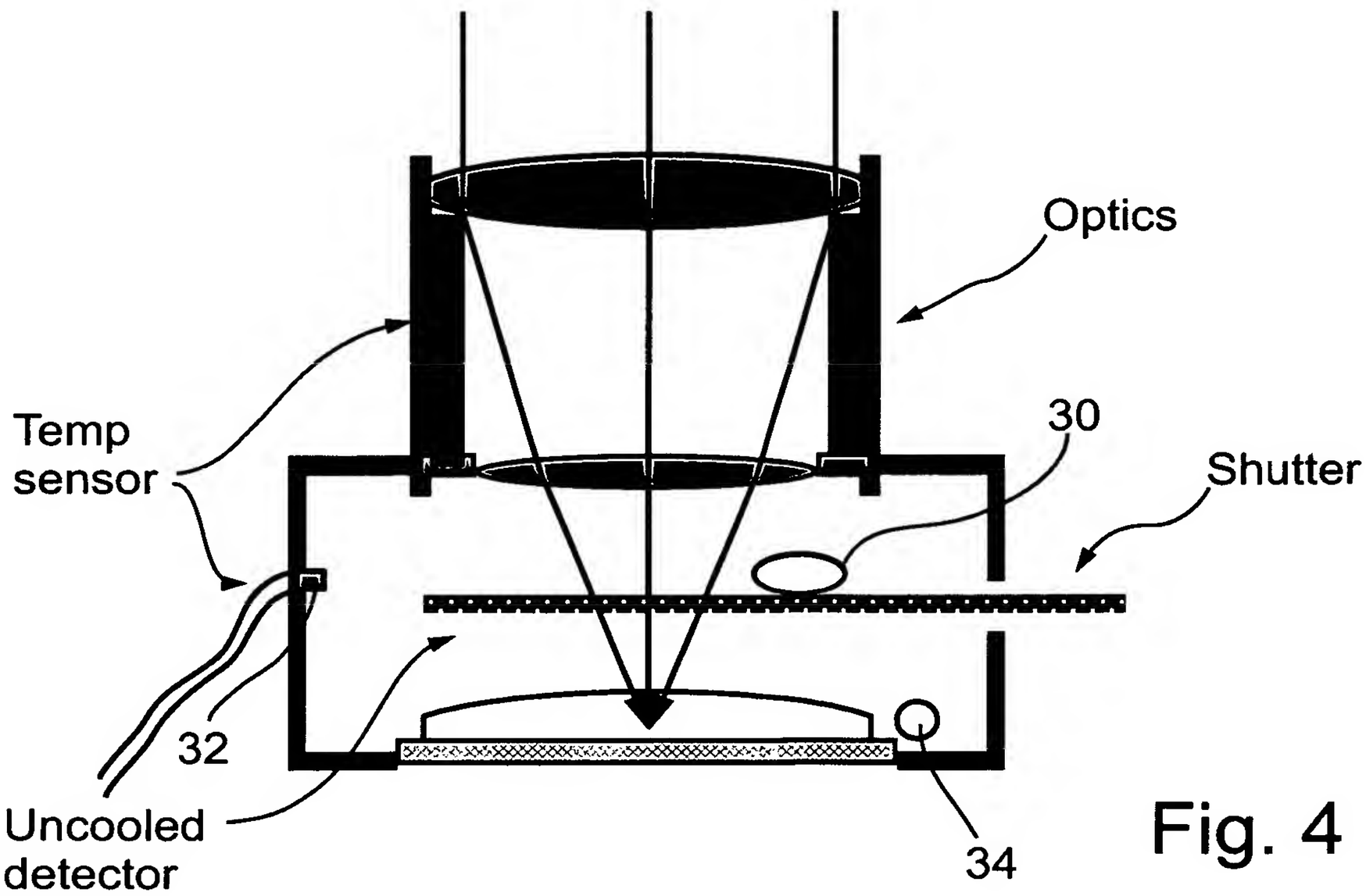

Optics
Temp
sensor
30
Shutter
32
Uncooled
detector
34

Fig. 4

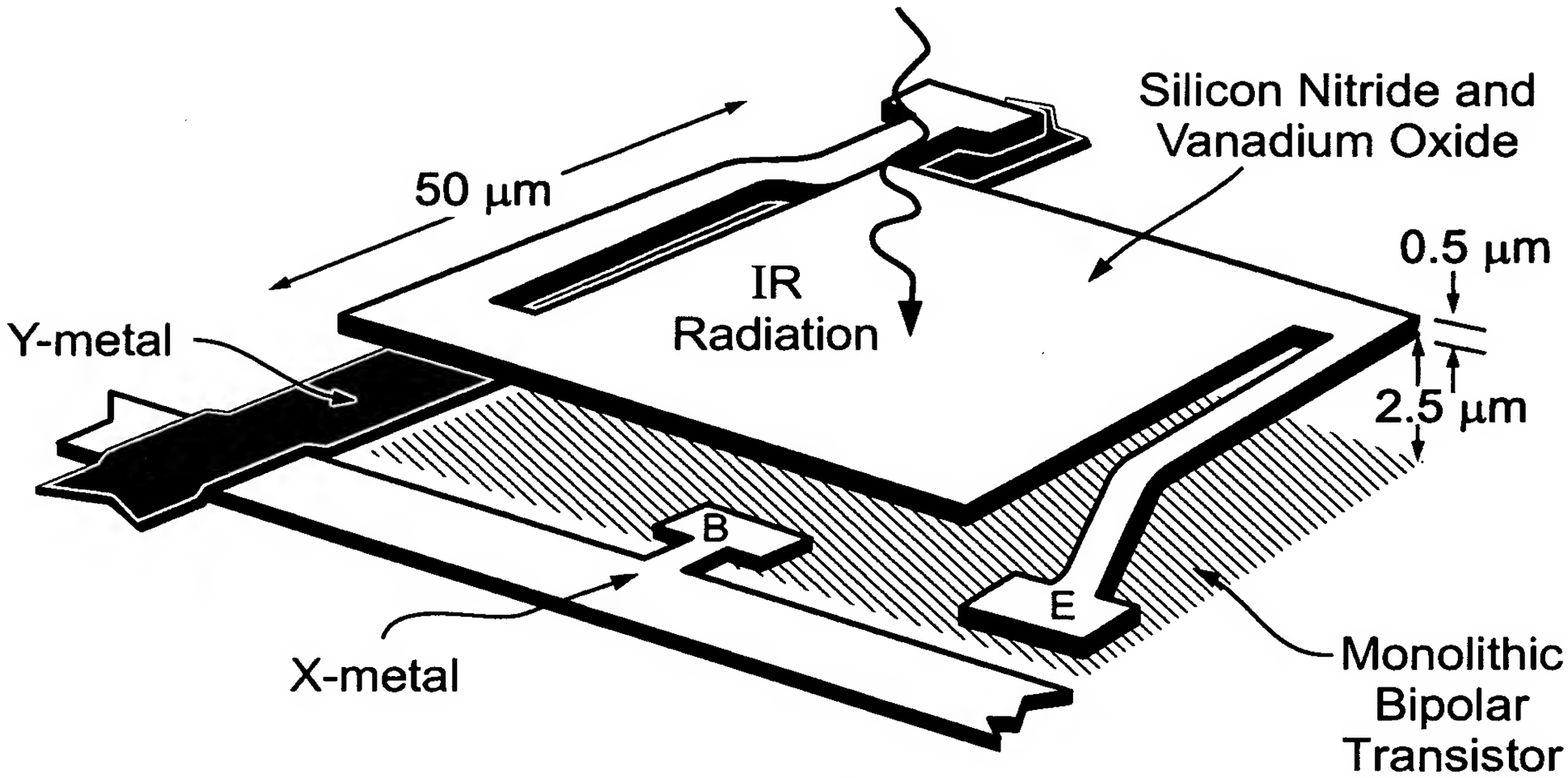
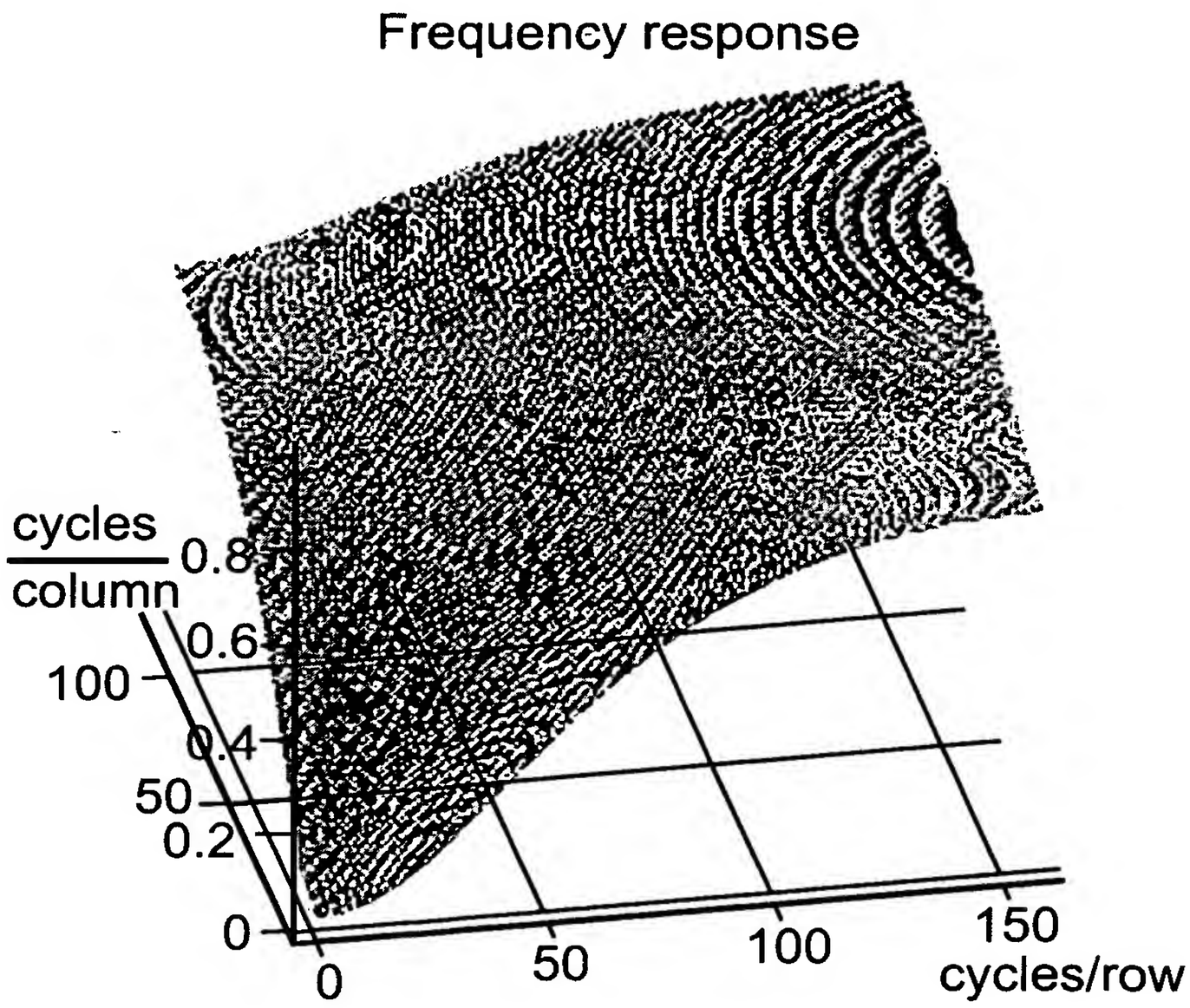


Fig. 5



High pass filter frequency response. Time filter is the MTF inverse approximation for a detector that contains 320 by 240 elements

Fig. 6

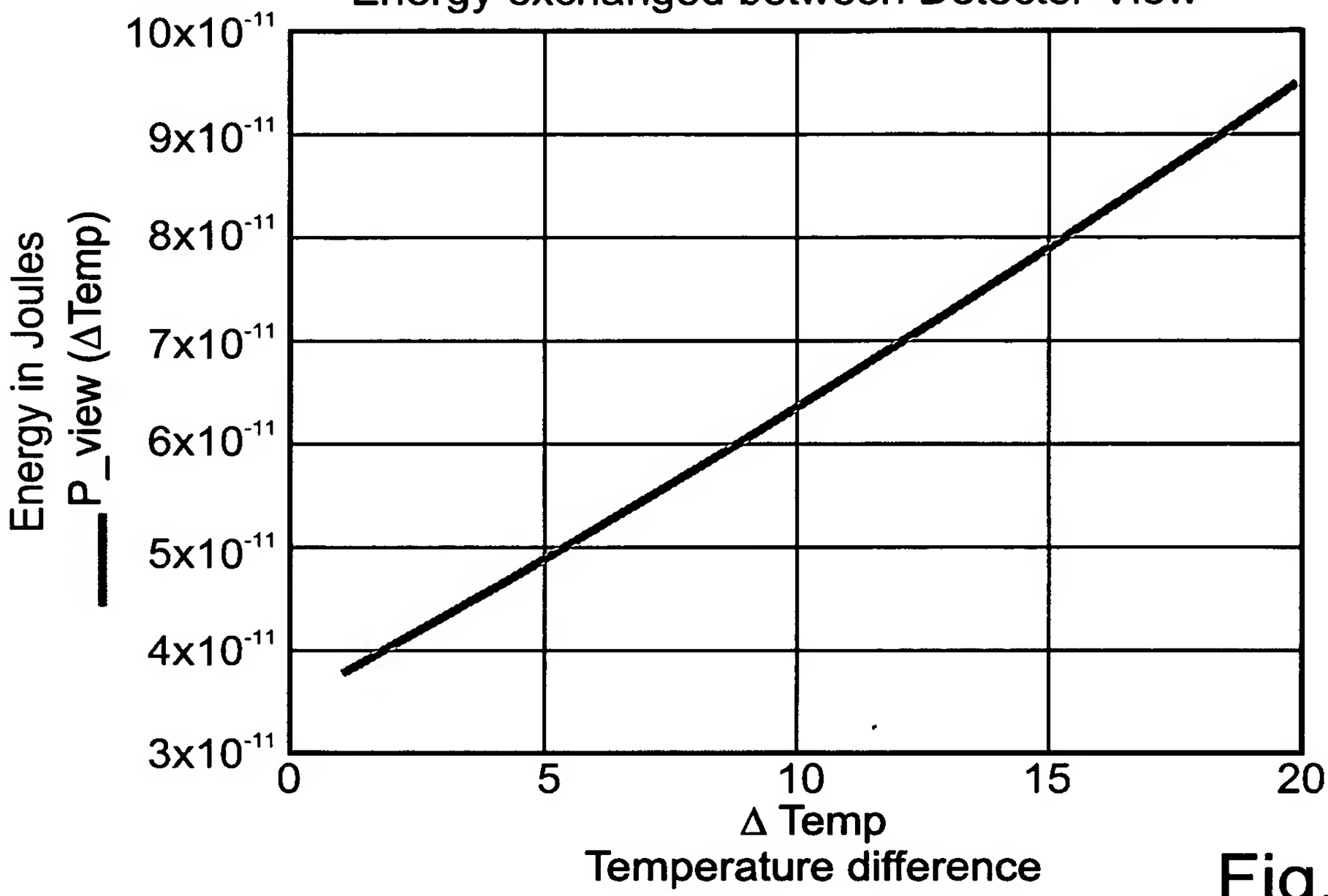

Energy exchanged between Detector-View
Energy in Joules
P_view (ΔTemp)
10x10-11
9x10-11
8x10-11
7x10-11
6x10-11
5x10-11
4x10-11
3x10-11
0
5
10
15
20
Δ Temp
Temperature difference

Fig. 7

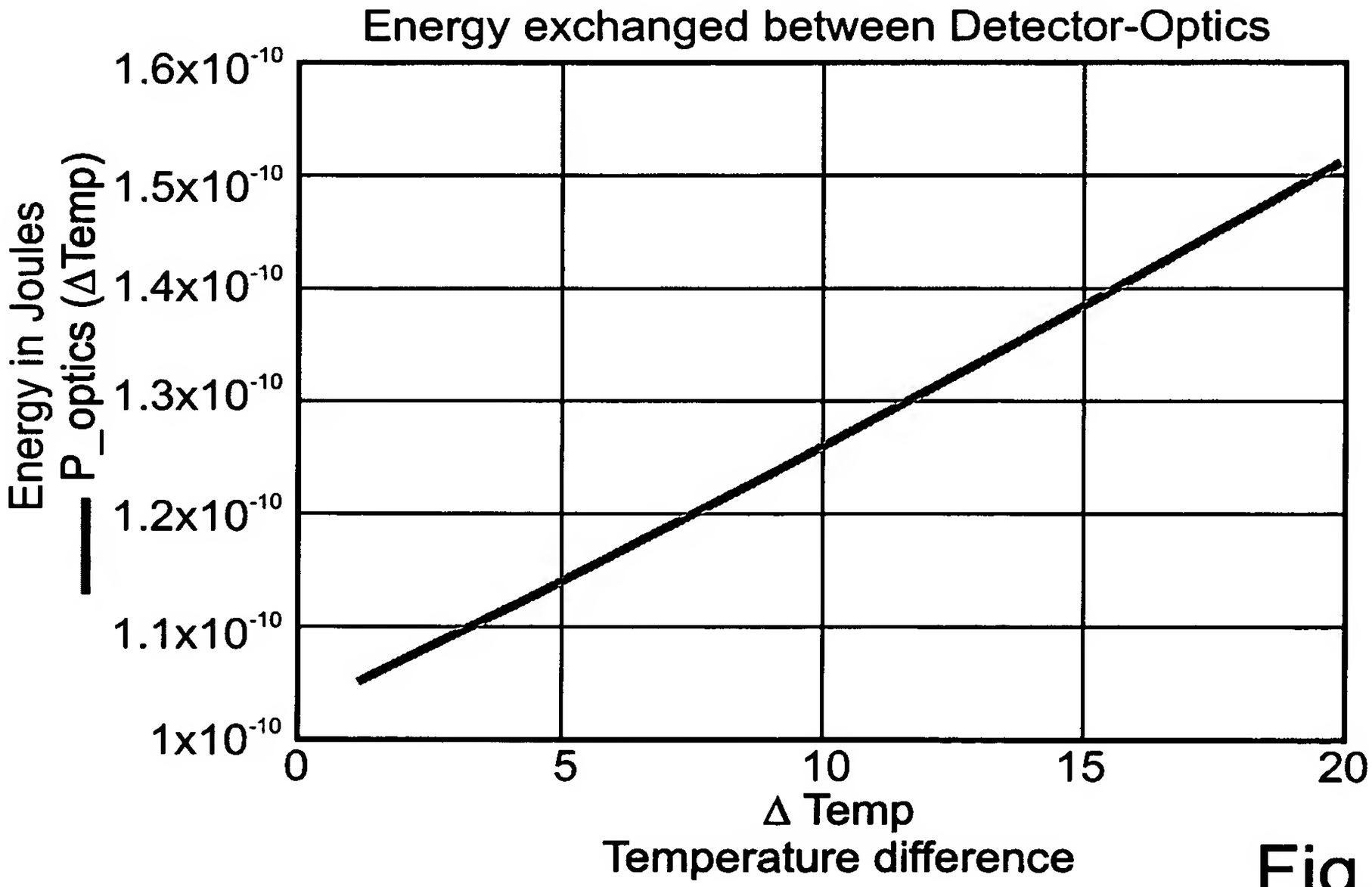

Energy exchanged between Detector-Optics
Energy in Joules
P_optics (ΔTemp)
1.6x10-10
1.5x10-10
1.4x10-10
1.3x10-10
1.2x10-10
1.1x10-10
1x10-10
0
5
10
15
20
Δ Temp
Temperature difference

Fig. 8

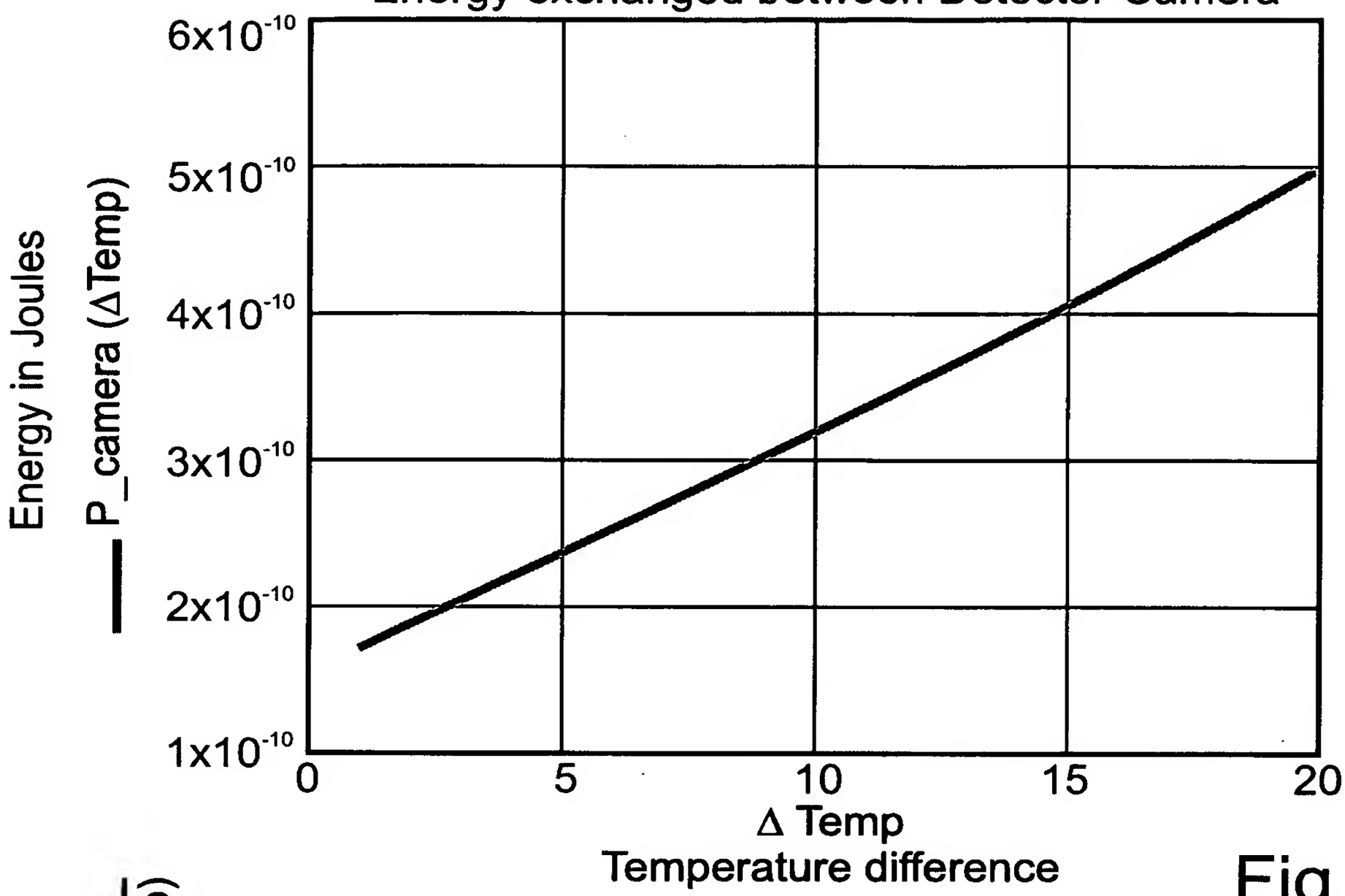

Energy exchanged between Detector-Camera
Energy in Joules
P_camera (ΔTemp)
6x10-10
5x10-10
4x10-10
3x10-10
2x10-10
1x10-10
0
5
10
15
20
Δ Temp
Temperature difference

Fig. 9

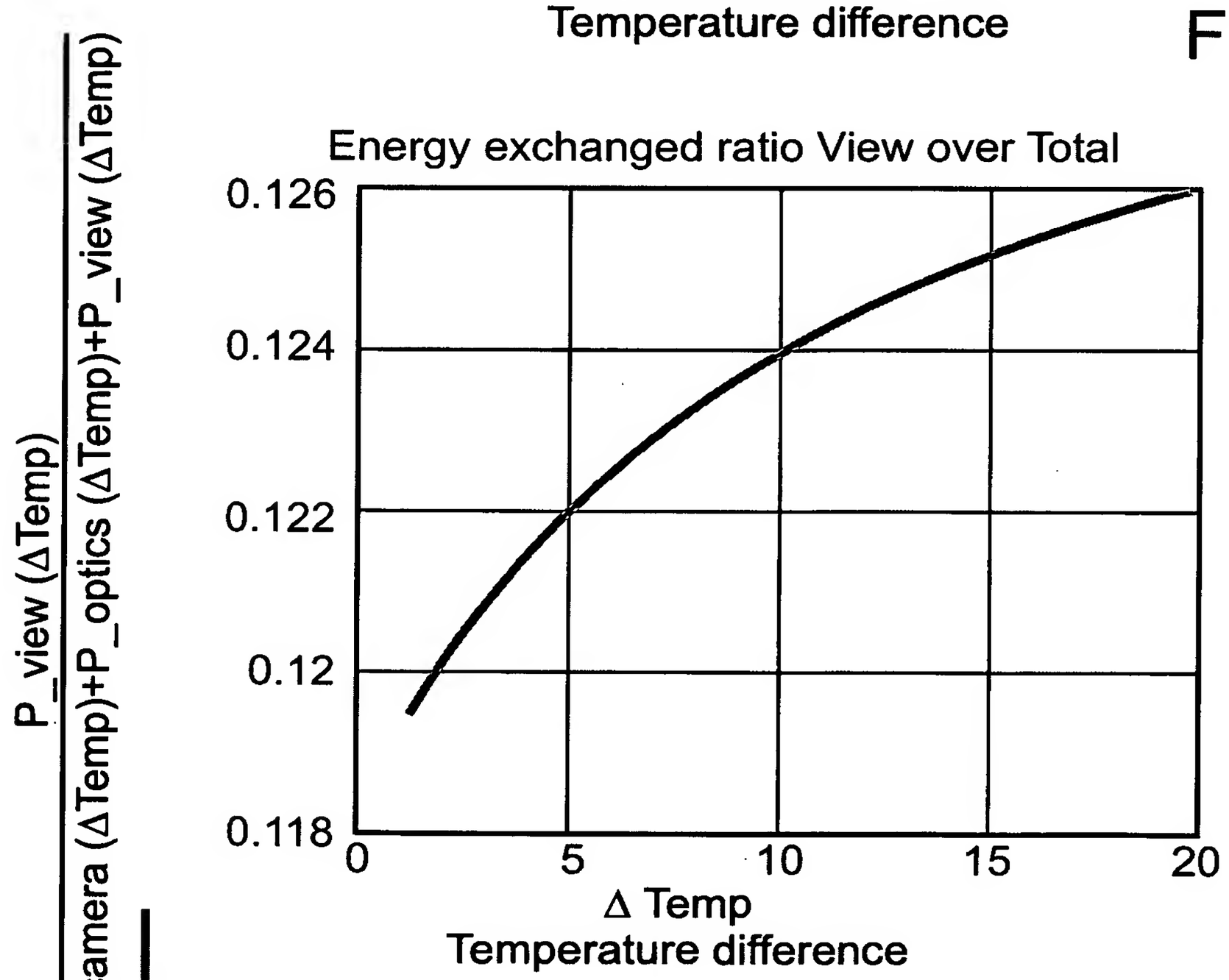

Energy exchanged ratio View over Total
P_view (ΔTemp)
P_camera (ΔTemp)+P_view (ΔTemp)
P_view (ΔTemp)
P_camera (ΔTemp)+P_optics (ΔTemp)
0.126
0.124
0.122
0.12
0.118
0
5
10
15
20
Δ Temp
Temperature difference

Fig. 10

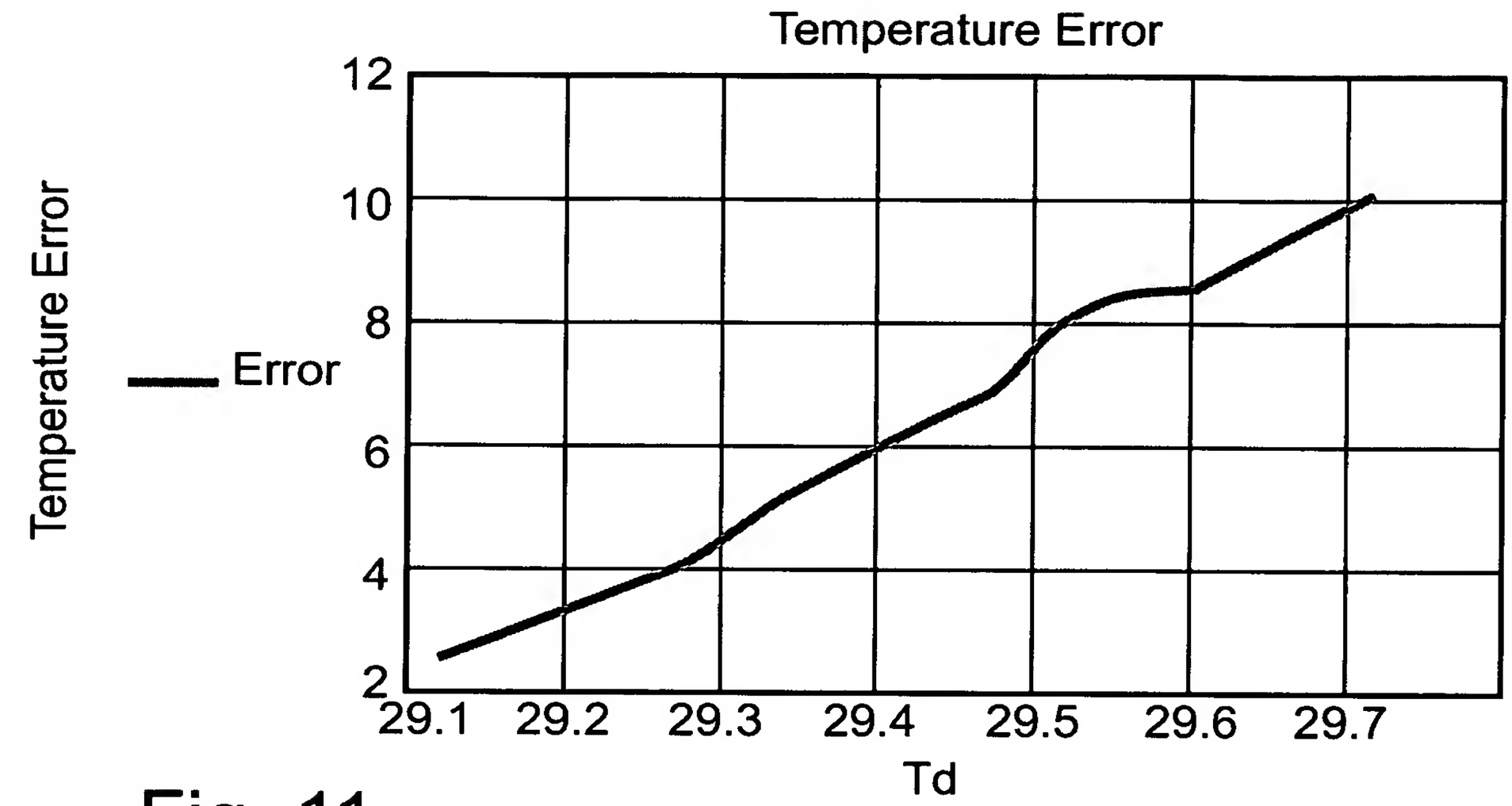

Temperature Error
Temperature Error
Error
12
10
8
6
4
2
29.1
29.2
29.3
29.4
29.5
29.6
29.7
Td
Thermistor temperature value [deg. C]

Fig. 11

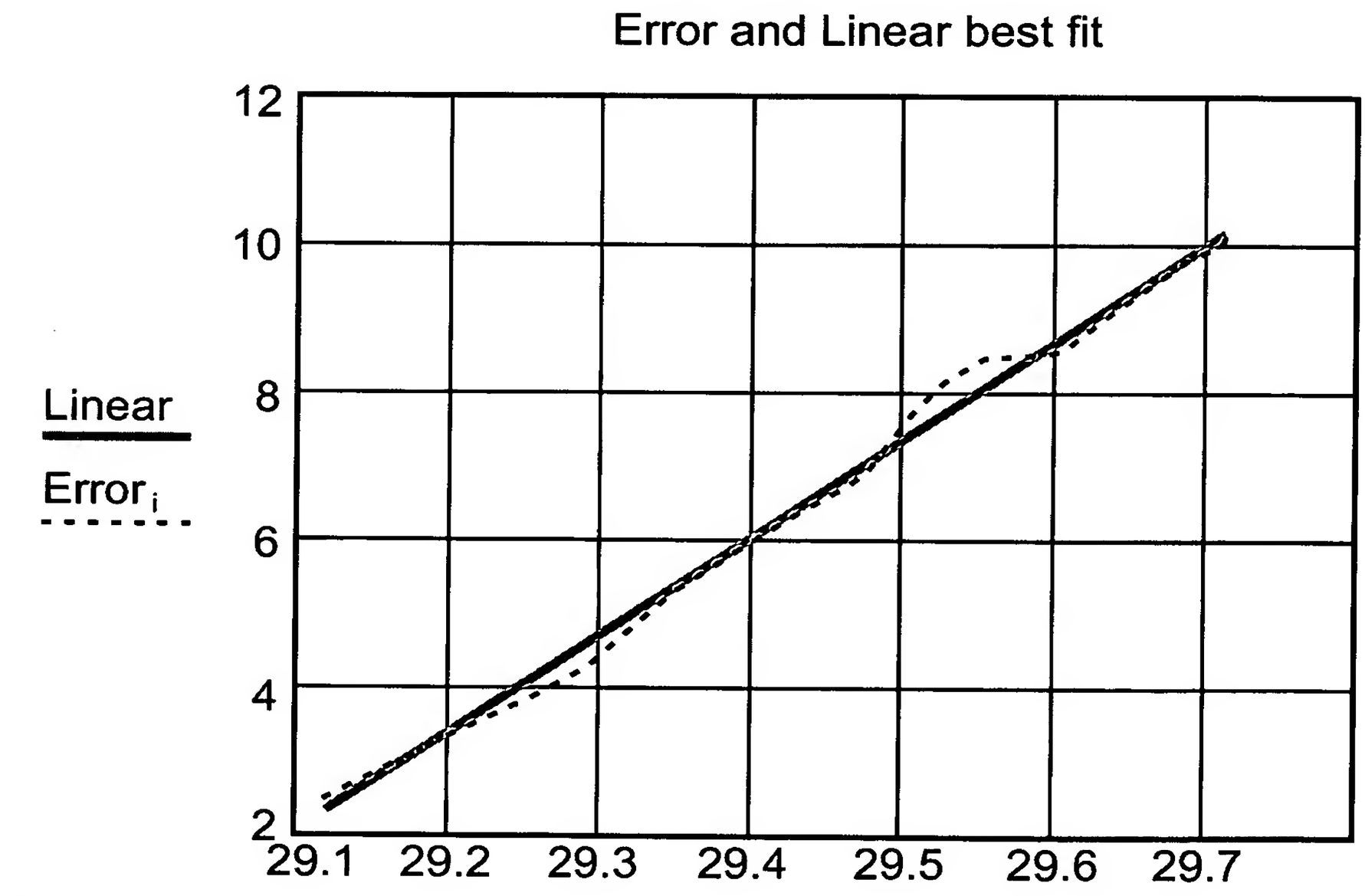

Error and Linear best fit
Linear
Error i
12
10
8
6
4
2
29.1
29.2
29.3
29.4
29.5
29.6
29.7
Tdi
Thermistor value [degree Celsius]

Fig. 12

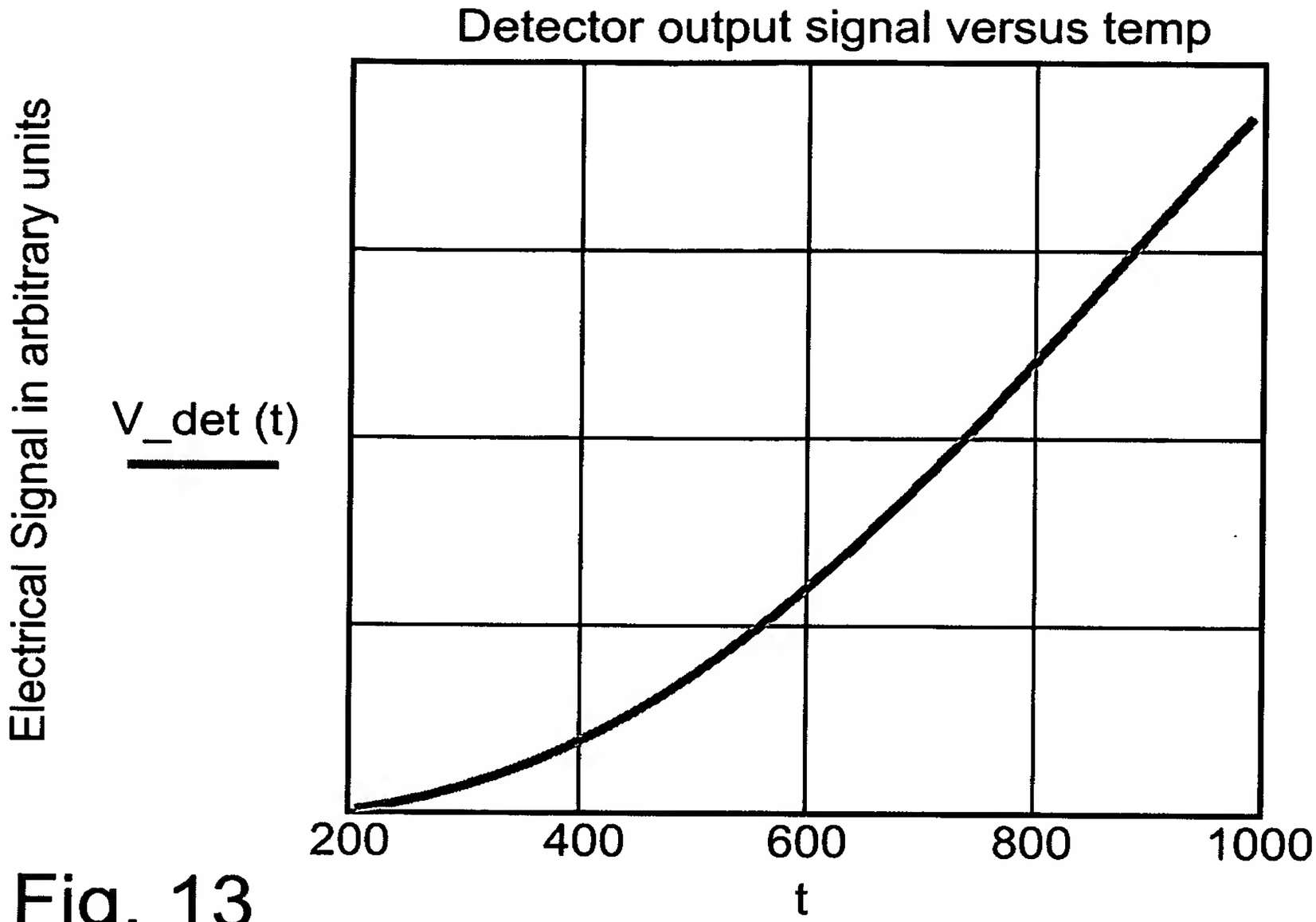

Detector output signal versus temp
Electrical Signal in arbitrary units
V_det (t)
200
400
600
800
1000
t
Object temperature in degrees Kelvin

Fig. 13

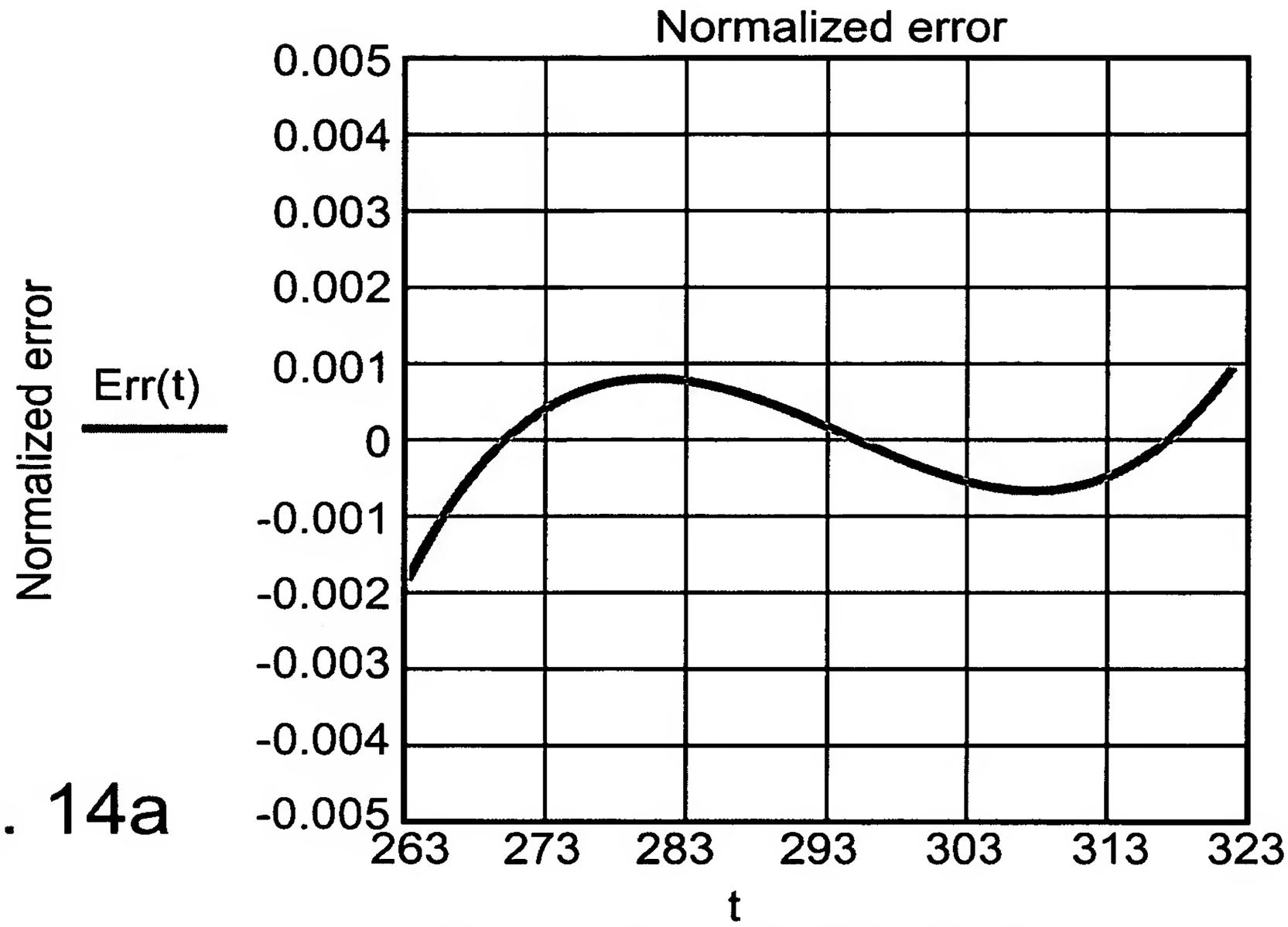


Fig. 14a

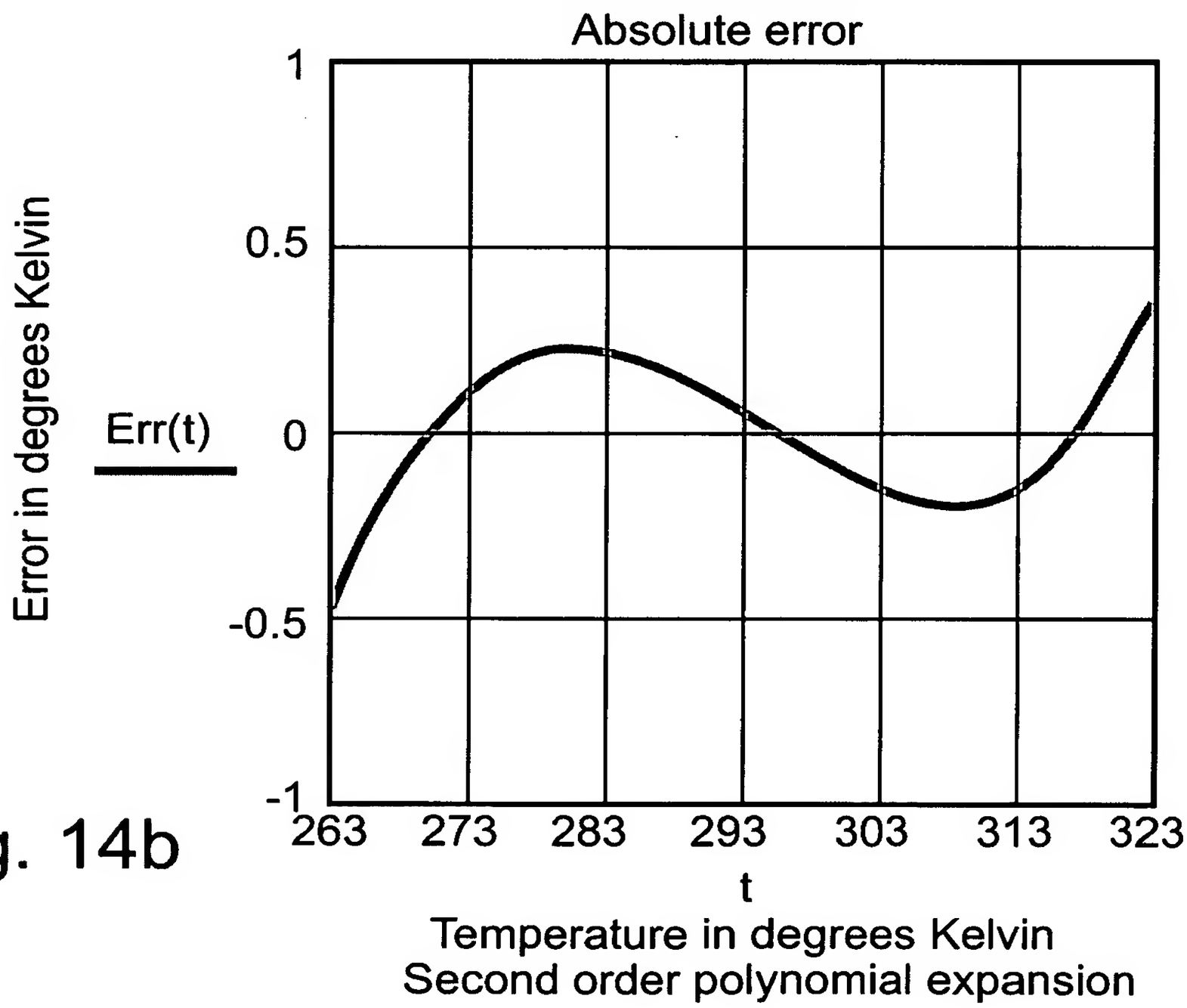


Fig. 14b

Fig. 15a

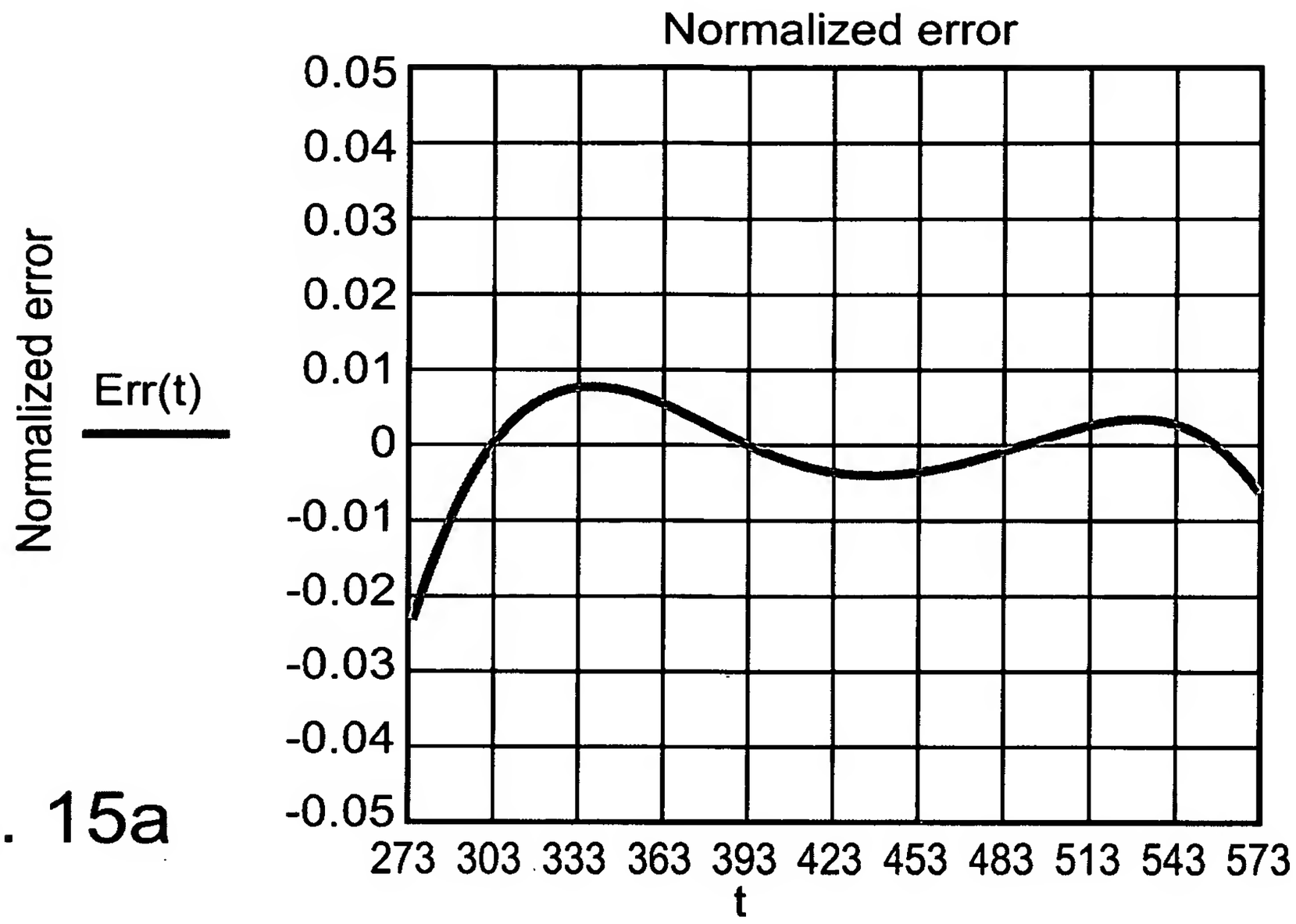
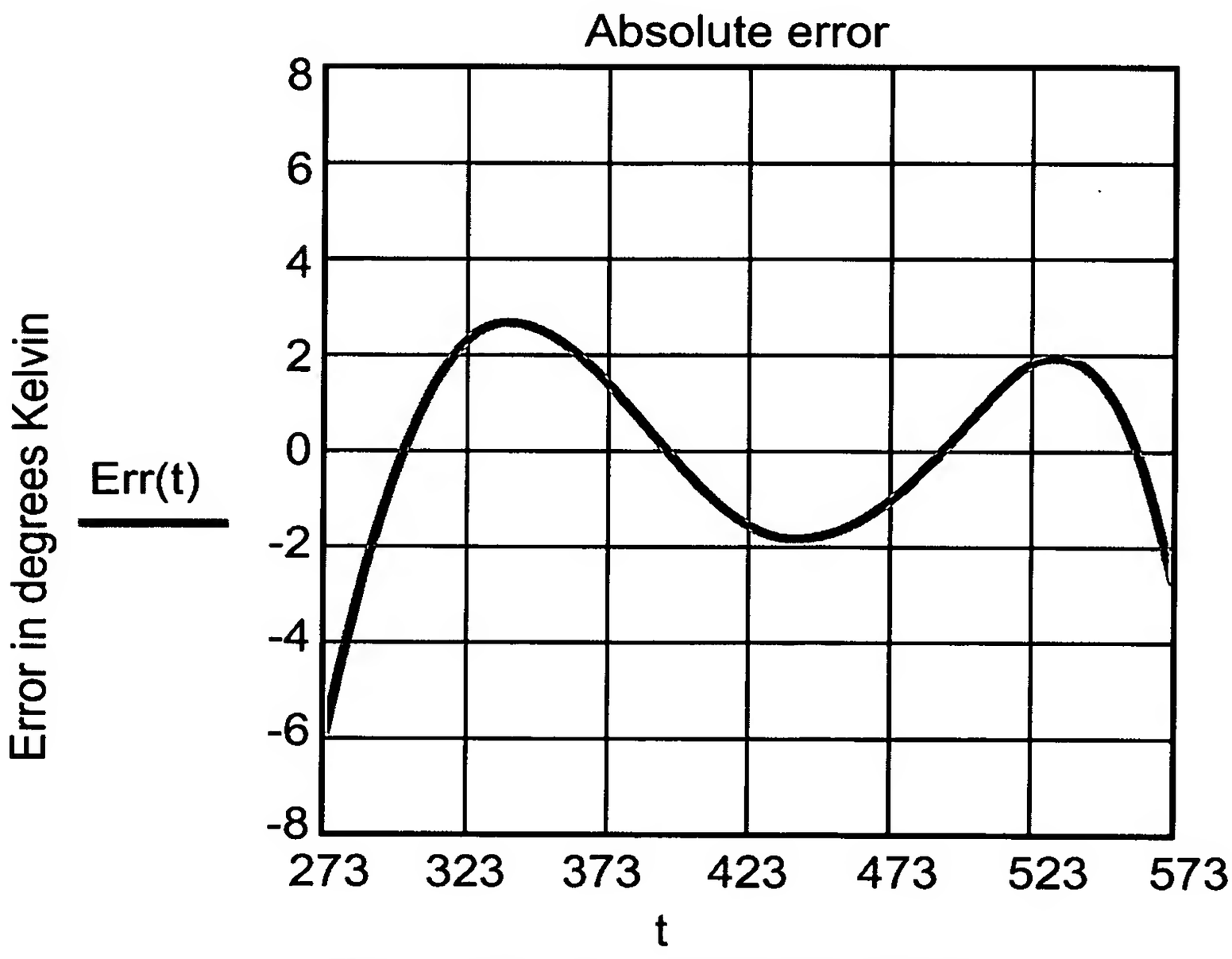


Fig. 15b



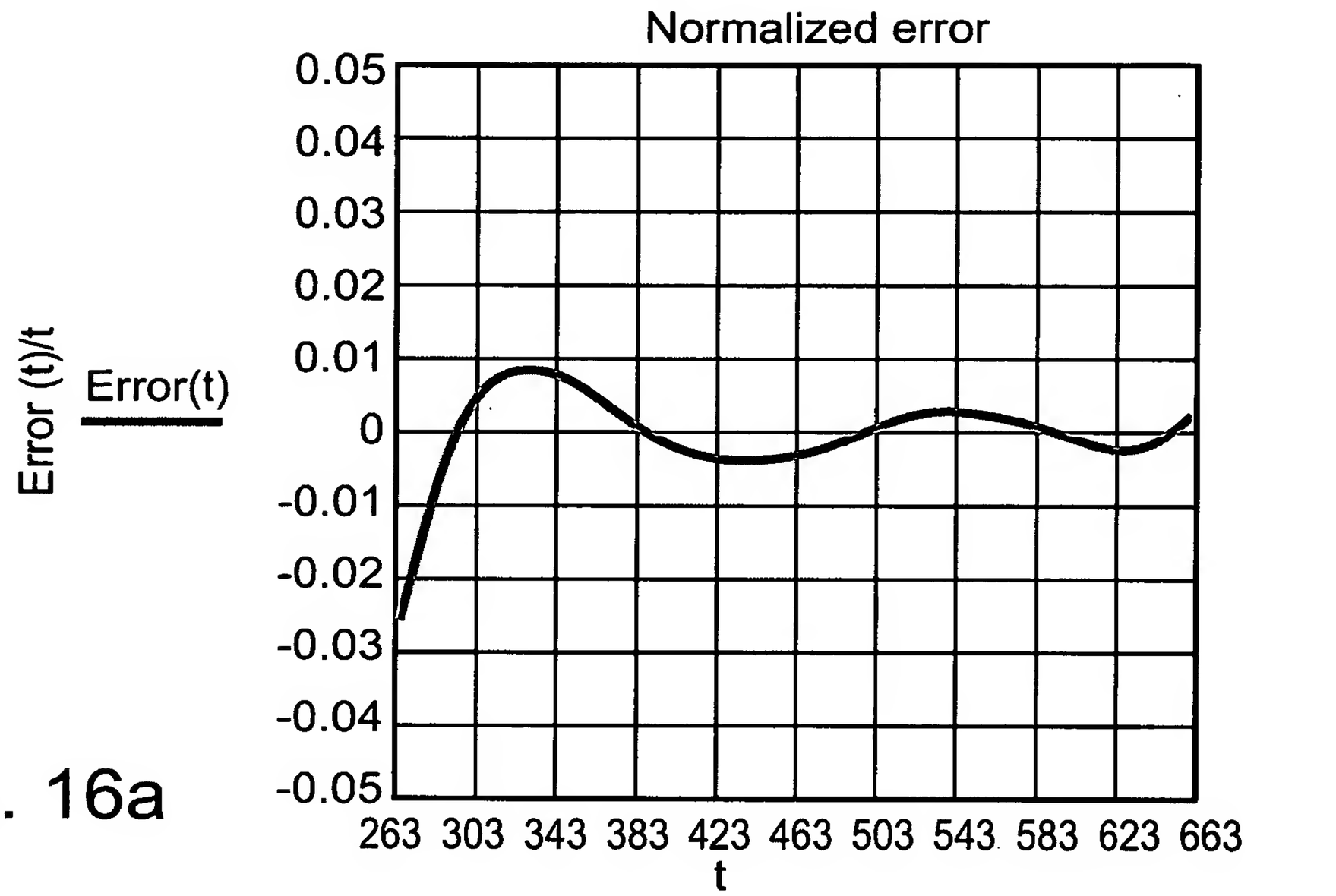


Fig. 16a

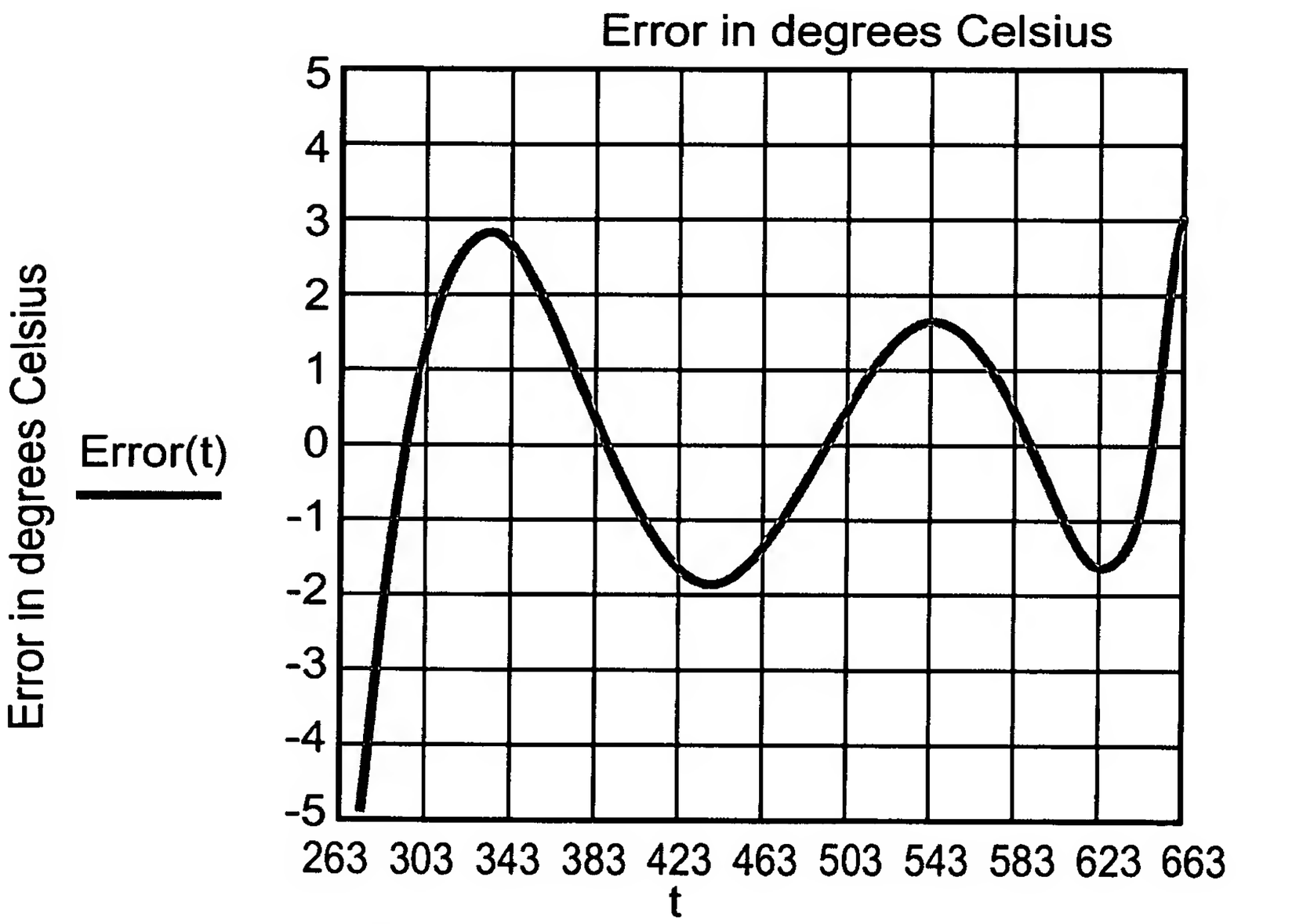
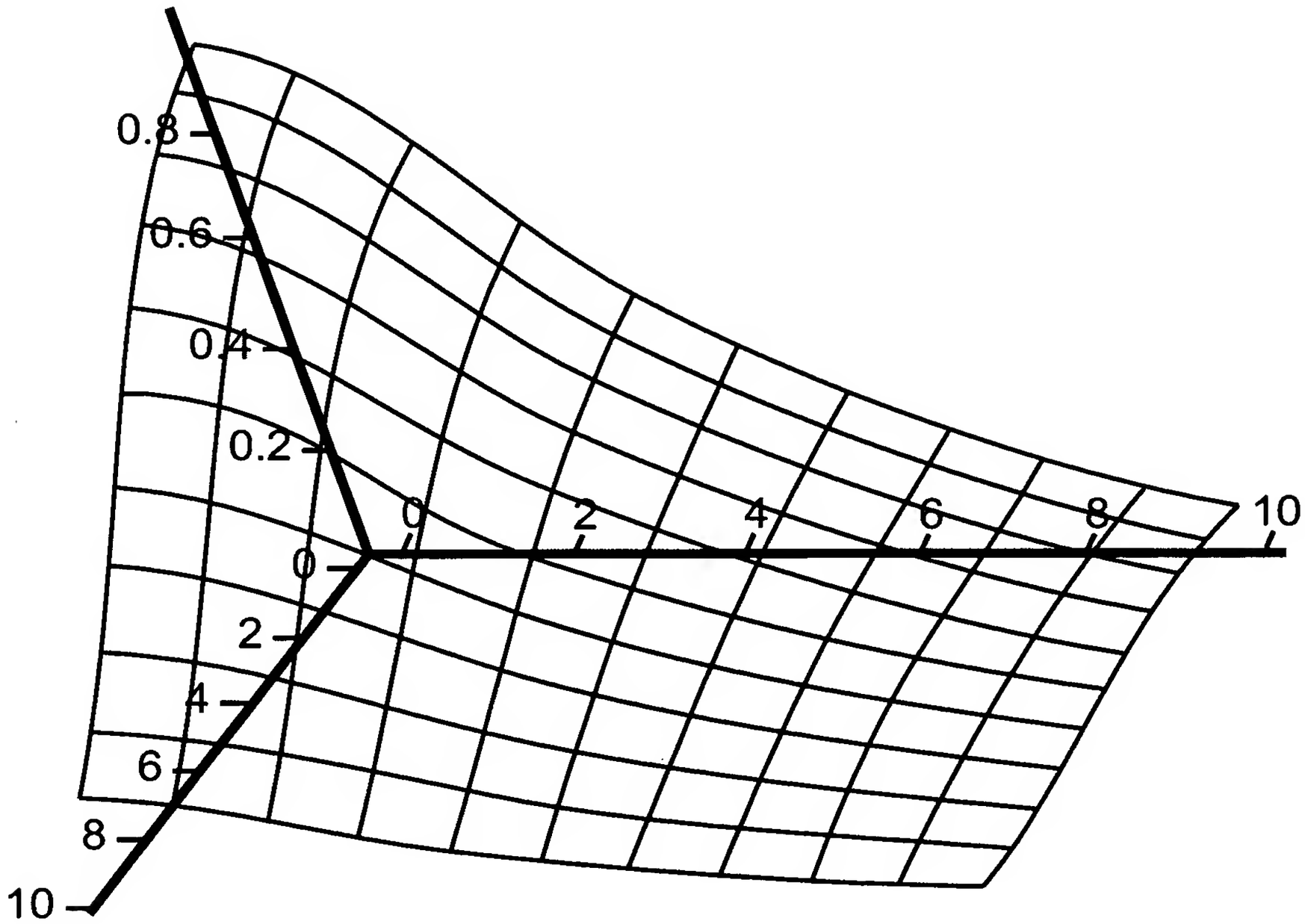


Fig. 16b



Fourier transform of camera impulse response

Fig. 17